

FISHES OF HONGKONG

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Two plates

The following notes are based on a collection of fishes secured by me from the markets in Hongkong during the month of August, 1910. The native names of the fishes are copied from the Hongkong Official Market Report of April 28, 1910. With but few exceptions the species here listed are used as food by the people of Hongkong.

The measurements given are: 1, length of head in length of fish without caudal; 2, greatest depth in length to last caudal vertebra; 3, length of head, exclusive of opercular flap, in length of fish without caudal. The scale count is from head to last caudal vertebra; total length is taken from tip of snout to tip of caudal fin. The numerals given at the end of each description are the numbers of the specimens in the collection of the Bureau of Science, Manila.

ENGRAULIDÆ. (Anchovies)

Anchovia dussumieri Cuv. and Val.

This species is characterized by the elongate posterior extension of the maxillary which ends on a line with the anterior third of the ventral fins. (6398.)

Anchovia indica (Van Hasselt).

Engraulis russelli GÜNTHER.

Dorsal, 15; anal, 19; length, 5.5 to end of vertebra; 3 or 4 elongate spines on belly in front of ventrals. (6393, 6394, 6397, 6399, 6400, 6401, 6402, 6403, 6404, 6405, 6407.)

SYNODONTIDÆ. (Lizard fishes)

Trachinocephalus myops (Forster).

One specimen. (6595.)

Synodus japonicus (Houttuyn).

(6573, 6590, 6592, 6615, 6653, 6665.)

CYPRINIDÆ. (Carp, li yu)

Cyprinus carpio (Linn.).

Six specimens of the common carp were secured. This fish is extensively cultivated in Canton and brought alive to the Hongkong markets where it is kept in large fresh-water tanks. The Chinese seem to be very fond of the soft flesh of this species (6472, 6538, 6539, 6540, 6542, 6547).

SILURIDÆ. (Catfishes, chik yu)

Arius falcarius Richardson.

Three specimens; length, 150 to 160 millimeters. (6587, 6627, 6659.)

PLOTOSIDÆ. (Naked catfishes)

Plotosus arab (Forskål).

Seven specimens. Color brown with 2 longitudinal white bands. Length, 50 to 200 millimeters. (6570, 6591, 6597, 6617, 6619, 6628, 6825.)

BELONIDÆ. (Gar fishes, fa paw poong)

Tylosurus caudimaculatus (Cuvier).

Head, 2.90 to end of caudal vertebra; snout, 4.30; eye slightly less than the interorbital space; dorsal, 14; anal, 17. (6475.)

EXOCÆTIDÆ. (Flying fishes)

Cypsilurus simus (Cuv. and Val.).

Dorsal, 12; anal, 8; ventrals reaching middle of anal base; pectorals uniform dark blue, neither banded nor spotted. (6529, 6534, 6545.)

Hemiramphus cantoris Bleeker. (Halfbeak)

Head, 2.3 to end of caudal vertebra; snout beyond end of upper jaw, 2.25 in length; eye slightly less than interorbital space; dorsal, 15; anal, 14; upper lobe of caudal strongly tipped with black, lower lobe yellowish. Length, 195 to 225 millimeters. (6473, 6487, 6514, 6517, 6525, 6537.)

ATHERINIDÆ. (Siversides)

Atherina forskålii Rüppell.

Length, 51 to 60 millimeters. (7687, 7688.)

Atherina bleekeri Günther.

Length, 65 millimeters. (6406.)

MUGILIDÆ. (Mulletts, chal yu)

Mugil longimanus Günther.

Scales, 32-12; dorsal, IV, 8; anal, III, 9. A dark spot in axil of pectorals; tip of caudal dusky; tip of soft dorsal dusky; maxillary completely hidden; adipose eyelid well developed; origin of dorsal over the anterior third of anal; pectorals equal to length of head; origin of spinous dorsal midway between end of caudal vertebra and origin of ventrals. (6270, 6273, 6274, 6276, 6278, 6279, 6282, 6283, 6284, 6286.)

Mugil cephalus Linn. (Striped mullet.)

Mugil oeur FORSKÅL.

Mugil macrolipidotus RICHARDSON.

Dorsal, IV, 8; anal, III, 8; scales, 38-40; head, 3.90; depth, 4; eye about equal to snout; a dusky stripe on center of each series of scales on upper half of body; a large dusky blotch on base of pectorals, adipose eyelid present and covering all of eye except pupil. Maxillary hidden except at tip. (6280, 6285.)

Mugil planiceps Cuv. and Val.

Greenish brown above, each series of scales with a darker line; pectorals short, equal to length from center of eye to posterior margin of opercles; adipose eyelid narrow, of greatest width posteriorly, scarcely covering half of iris; no spot in axil of pectorals; maxillary showing at tip. (6281.)

SPHYRÆNIDÆ. (Barracudas)

Sphyræna obtusata Cuv. and Val.

Head, 3; depth, 6; eye, 5.5; opercle ending in a single point. Length, 120 to 375 millimeters. (6452, 6492, 6496, 6498, 6507.)

Sphyræna jello Cuv. and Val. (Banded barracuda.)

One specimen, length, 175 millimeters. This species is characterized by the 16 dark bands over the back, the very small scales, and the 2 points on the opercle. (6448.)

POLYNEMIDÆ. (Threadfins)

Polydactylus tetradactylus Shaw.

Four pectoral appendages; tip of dorsal black; pectorals usually with a grayish wash. (6341, 6360, 6361, 6362, 6364.)

Polydactylus plebeius (Broussonet).

Young with 5 pectoral appendages, some of them of greater length than the pectorals; a black spot above origin of lateral line; tip of dorsals dusky; caudal lobes elongate, grayish at tip. (6368.)

FISTULARIIDÆ. (Cornet fishes)

Fistularia serrata Cuv.

Two specimens were secured, length, 320 and 410 millimeters, respectively; a young, probably of this species, has the scutes less developed, and is also characterized by some darker bars over the back. (6494, 6530.)

HOLOCENTRIDÆ. (Soldier fishes)

Holocentrus ruber Lacépède.

This beautiful species is very common in Hongkong. Length, 160 to 210 millimeters. (6395, 6396.)

SCOMBRIDÆ. (Mackerels, chi yu)

Scomberomorus guttatum (Bloch).

This is one of the best flavored fishes of the Hongkong market. Length, 223 millimeters. (7757.)

CARANGIDÆ. (Cavallas)

Trachurus trachurus Linn.

This species is characterized by the plates which extend the entire length of the lateral line; opercular spot, black. Length, 135 to 137 millimeters. (7759, 7765.)

Scomberoides lysan (Forskål).

Length, 130 millimeters. (7769.)

Caranx ophthalmotænia (Bleeker).

Length, 75 to 120 millimeters. (7760, 7766, 7770, 7771.)

Caranx malabaricus (Bloch and Sch.).

Length, 120 millimeters. (7764.)

Caranx boops Cuv. and Val.

Length, 80 to 90 millimeters. (7763, 7772.)

Caranx calla Cuv. and Val.

Length, 150 millimeters. (7762.)

Caranx djeddaba (Forskål).

Length, 200 millimeters. (7761.)

STROMATEIDÆ. (Butterfishes)

Stromateus niger Bloch. (Black pomfret, hak chong.)

The dorsal and anal rays are elongate and extend to a line with base of caudal; the ventrals extend to origin of anal. In specimens 10 centimeters in length, the ventrals and dorsal are considerably shorter and there is but a slight trace of a keel on the caudal peduncle. The very young are marked with indistinct dusky bands, and there is a dusky spot at the base of each lobe of caudal. (5405, 6289, 6291, 6299, 6315, 6317, 6318.)

Stromateus argenteus Bloch. (White pomfret, pak chong.)

Young.—No ventrals; no spines before dorsal or anal, the lobe of caudal not elongate, color white. (6311, 6312, 6320.)

EQUULIDÆ. (Slip mouths)

Equula insidiator (Bloch).

Length, 90 to 107 millimeters. Ten specimens. (6575, 6586, 6621, 6636, 6638, 6639, 6642, 6657, 6663, 6672.)

Equula ruconia (Hamilton-Buchanan).

One specimen, length, 56 millimeters. (6676.)

Leiognathus edwardsi Evermann and Seale.

Length, 60 to 170 millimeters. (6558, 6582, 6601, 6631, 6632, 6637, 6658, 6669, 6670.)

Leiognathus virgatus Fowler.

Length, 60 to 67 millimeters. (6551, 6584, 6645, 6655, 6673.)

Leiognathus daura (Cuvier).

Tip of snout and a portion of nape, dark. Length, 90 to 95 millimeters. (6565, 6599, 6662, 7394.)

APOGONICHTHYIDÆ. (Cardinal fishes)

Amia elizabethæ Jordan and Seale.

Length, 42 millimeters. (6335.)

Amia bifasciata (Rüppell). (Yang sun ko.)

Amia trimaculatus RICHARDSON.

Yellowish with a dusky vertical strip from the origin of spinous dorsal downward, another from the anterior portion of soft dorsal; a round spot at base of caudal; ventrals dusky; dorsal, caudal, and anal grayish. (6287, 6288, 6295, 6307, 6308.)

***Amia marginatus* Döderlein.**

Color in alcohol yellowish; top of head and nuchal region with fine black specks; top of dorsals black, a black band through middle of soft dorsal; tips of anal and caudal dusky. (6290, 6294, 6302, 6348.)

***Amia döderleini* Jordan and Snyder.**

Color in alcohol yellowish; a blackish stripe from snout through eye to the round distinct caudal spot; a dark line from above eye to near the upper margin of the caudal spot, another from subopercle to just below the caudal spot, another (frequently obliterated) on sides of belly, and another (often obliterated) along the base of the dorsal fins; a black line through bases of anal and soft dorsal; tips of caudal, soft dorsal, and anal grayish. (6266, 6292, 6298.)

***Amia semilineatus* (Schlegel).**

Color in alcohol yellowish white; a jet black caudal spot; a black line from tip of snout through eye to posterior margin of opercle, another from snout over interorbital space to below origin of soft dorsal, and a third on median line of nuchal region; tip of spinous dorsal black. (6304.)

***Amia lineatus* (Schlegel).**

Color in alcohol yellowish white, with a silvery wash on sides; about 11 or 12 vertical dark bars on each side, scarcely as wide as interspaces; tip of spinous dorsal and tip of caudal grayish. (6345, 6353.)

***Amia kiensis* Jordan and Snyder.**

This is undoubtedly the species discovered and figured by Jordan and Snyder, but I suspect that it is *A. frænata* of Valenciennes; it is most certainly the species figured by Day as *A. frænata*. All of our specimens are without the caudal spot, the dark line from tip of snout extends to tip of caudal, the second dusky line is from tip of snout above eye to upper margin of caudal peduncle; the most persistent marking in all ages is the dusky tip to ventrals which is present in all specimens. There is a dark line through base of anal and soft dorsal. (6296, 6297, 6300, 6301, 6310, 6325, 6327, 6328, 6329, 6333, 6334, 6336, 6338, 6339, 6340, 6343, 6351, 6354, 6357, 6359.)

AMBASSIDÆ. (Wharf fishes)

Priopis urotænia (Bleeker).

Color yellowish white; a silver stripe from head to caudal; membrane between 2d and 3d dorsal spines dusky; 2 rows of scales on cheeks. (6323, 6324, 6326, 6330, 6331, 6332, 6337, 6342, 6346, 6347, 6352, 6355, 6356.)

SERRANIDÆ. (Garoupa, sek pan)

Cephalopholis bæneck (Bloch).

One specimen, length, 180 millimeters. (7776.)

Epinephelus moara (Schlegel).

This species is characterized by the 7 bands of dark brown over the back, the 2 or 3 anterior ones extending forward on to the head. This fish is well figured by Jordan and Seale.¹ Fifteen specimens. (7712, 7722, 7724, 7725, 7780, 7781, 7790.)

Epinephelus septemfasciatus Thunb.

Thirteen specimens of this species were secured. Length, 60 to 210 millimeters. This species is characterized by the 8 black vertical bands over the body; there are some enlarged teeth at the angle of the preopercle. (7778, 7779, 7782, 7783, 7791-7799.)

Epinephelus boenack (Bloch).

One specimen, this fish resembles somewhat *E. septemfasciatus*, but it has less distinct bands on the sides and the preopercular angle is distinctly rounded, with the teeth scarcely enlarged at angle. Length, 120 millimeters. (1784.)

Epinephelus merra Bloch.

This is a food fish of considerable importance in Hongkong. One specimen, length, 176 millimeters. (7715.)

Epinephelus dermopterus (Temm. and Schleg.).

Head, 3; depth, 2.55; eye slightly less than interorbital, 5 in head; snout slightly longer than diameter of eye; maxillary extending to a line with anterior margin of pupil; posterior margin of preopercle almost straight, some enlarged teeth at angle.

Dorsal, XI, 21; anal, III, 10; about 135 rows of scales from head to end of caudal vertebra; caudal rounded, body covered

¹ *Proc. Davenport Acad. Sci.* (1905), 10, Pl. 5.

with minute ctenoid scales; teeth in 2 or more rows; 2 enlarged curved canines anteriorly.

Color uniform brown, fins all darker, being almost black posteriorly; length, 111 to 185 millimeters. (7756, 7757.)

Epinephelus gilberti Richardson.

Color yellowish brown, with round darker brown spots the size of pupil, over body. Two specimens, length, 235 to 270 millimeters. (7795, 7797.)

LUTIANIDÆ. (Snapper, lap yu)

Lutianus annularis (Cuv. and Val.).

Lutianus erythropterus DAY.

This species is distinguished by the black stripe from snout to origin of dorsal; the black saddle over the caudal peduncle bordered anteriorly and posteriorly with white; dark lines on body; ventrals tipped with black. Six specimens, length, 75 to 120 millimeters. (7704, 7705, 7706, 7707, 7708, 7709.)

Lutianus monostigma (Cuv. and Val.).

One specimen, length, 104 millimeters. (7753.)

Lutianus erythropterus Bloch.

This species resembles *L. vitta*, but is without the dark line on sides. Length, 67 to 180 millimeters. (7732, 7748, 7749, 7752, 7754, 7755.)

Nemipterus japonicus (Bloch).

Length, 98 to 115 millimeters. (7750, 7751.)

Diploprion bifasciatum (Kuhl and Van Hasselt).

This species is characterized by the 2 broad black bands which are very distinct even in alcoholic specimens. Length, 185 to 190 millimeters. (7773, 7774.)

THERAPONIDÆ. (Grunts)

Scolopsis vosmeri Bleeker.

This species is easily distinguished by the silvery white saddle over the neck and the black spot in upper axil of pectorals. Length, 140 millimeters. (7726.)

Therapon cuvieri (Bleeker).

Six specimens, length, 105 to 127 millimeters. The dark stripes terminate at the caudal, the markings below the median line of the side are almost obliterated. (7728, 7730, 7731, 7734, 7736, 7737.)

Therapon theraps (Cuv. and Val.).

Four small specimens, length, 95 to 105 millimeters. A common food fish of Hongkong. (7727, 7729, 7733, 7735.)

Therapon jarbua (Forskål).

Length, 51 to 72 millimeters. (7679, 7680, 7681, 7682, 7683, 7684, 7685.)

HÆMULIDÆ

Pristapoma hasta Bloch.

Six young specimens (6562, 6671, 7689, 7690, 7691, 7692) have the bands over the back; length, 65 millimeters. In the large specimen (7697) these bands are broken up into black spots; length, 170 millimeters.

SPARIDÆ. (Porgies)

Lethrinus mahsenoides Ehrenberg.

All of these specimens show the round black spots below the lateral line above the middle of pectorals. Length, 100 to 120 millimeters. (7693, 7694, 7695, 7696.)

Sparus datnia (Hamilton).

A food fish of importance. Length, 100 to 115 millimeters. (7744, 7746, 7747.)

Sparus berda Forskål.

Length, 110 to 142 millimeters. (7738, 7739, 7740, 7741, 7742, 7743, 7745.)

GERRIDÆ. (Mojarras)

Xystæma punctatum (Cuv. and Val).

Length, 67 to 100 millimeters. (6564, 6572, 6667.)

MULLIDÆ. (Surmulletts).

Upeneus displurus Playfair.

Color yellowish, with a slight brownish wash above. A yellow stripe from eye to below second dorsal, a second yellow stripe from upper lip through lower border of eye to below second dorsal; these give the appearance of a brown stripe to the area between the two yellow lines; a yellow saddle over free portion of tail, a brown stripe down sides of snout. In old specimens the first dorsal is clouded with brown and the second dorsal and the anal are indistinctly barred with pale brown; in young specimens the fin markings are indistinct. (6444, 6457, 6485, 6506, 6512, 6513.)

Upeneus bensasi (Temm. and Schleg.).

No yellow band on sides (in alcohol), the dorsal with dusky bands; teeth of vomer very distinct—those of the palatine in an interrupted band. (6429, 6442.)

Upeneoides sulphureus (Cuv. and Val.).

One specimen. (6244.)

Upeneoides moluccensis Bleeker.

Head, 3.75; depth, 3.5; eye, 3.75; snout, 2.60; interorbital, 3.50; depth of caudal peduncle, 2.75; scales, 34 to end of caudal vertebra; villiform teeth in jaws, vomer, and palatines; dorsal, VIII, 1, 8; anal, 1, 6. The palatine teeth form a continuous band on each side; the vomerine teeth consist of a minute patch on the head of the vomer, easily overlooked. Length of the spinous dorsal is 1.20 in the depth of the fish. Color in alcohol pale yellowish brown above, yellow below, a bright orange band from eye to caudal; spinous dorsal, soft dorsal, and upper lobe of caudal with about 4 cross bars; tip of spinous dorsal dusky. It is probable that *U. moluccensis* Bleeker will be found to be synonymous with *U. bensasi* Temminck and Schlegel as these specimens partake of the characters ascribed to each of these species, with a predominance of those ascribed to *U. moluccensis*. (6420, 6423, 6425, 6431, 6436, 6441, 6445, 6458, 6460, 6488, 6526.)

Upeneoides tragula (Richardson).

This fish is known to the Chinese as *yang tsuan* or *yéung tsun*. It is a common food fish in the Hongkong market. The color is yellowish white with a dusky stripe along the middle of side from eye to caudal. The body is thickly dotted with small brownish spots. The caudal has 4 oblique dusky bars. The dorsal fins are marked with blackish. Length, 20 centimeters. (6440.)

SCIÆNIDÆ. (Croakers)

Sciæna diacanthus (Lacépède).

Corvina catalea RICHARDSON.

Dorsal, IX, I, 20; anal, II, 7; scales about 52 in lateral line. Color in alcohol grayish yellow, dark spots on back and sides, pectorals and anal dark, remaining fins spotted, caudal very acute; teeth of upper jaw rather large, teeth of lower jaw large, upper jaw overhanging. Length, 50 to 70 millimeters. (6344, 6358, 6426, 6428, 6491, 6516, 7710.)

Sciæna aneus Bloch.

Length, 60 to 125 millimeters. (6349, 6350, 6415, 6456, 6461, 6467, 6481, 6490, 6497, 6520, 6544, 6674.)

Sciænoides biauritus Cantor.

Length, 150 to 165 millimeters. (6421, 6476.)

SILLAGINIDÆ. (Whitings)

Sillago sihama (Forskål).

One specimen, length, 165 millimeters. (6480.)

Sillago maculata Quoy and Gaimard.

Two specimens, length, 141 to 165 centimeters. (6471, 6532.)

CEPOLIDÆ. (Bandfishes)

Acanthocepola krusensternii (Temm. and Schleg.).

A narrow dark margin on anal and posterior portion of dorsal. Length, 130 to 140 millimeters. (6550, 6583, 6596, 6661, 7387, 7389.)

CIRRHITIDÆ. (Sea goldfishes)

Cirrhities aureus (Temm. and Schleg.).

When alive these fish were golden in color, but in alcohol 5 or more very indistinct dusky vertical bands are visible on the body. It is probable that *C. oxycephalus* of Bleeker and *C. aureus* Temminck and Schlegel are the same species. These specimens have teeth on vomer and palatine. One specimen has the first dorsal ray prolonged into a filament. (6585, 8654.)

LABRIDÆ. (Wrasse fishes, wong fa yu)

Duymæria flagellifera Cuv. and Val.

Duymæria aurigaria GÜNTHER, Cat. Fishes Brit. Mus. (1862), 4, 121.

Duymæria flagellifera JORDAN AND SNYDER, Proc. U. S. Nat. Mus. (1902), 24, 623.

This species exhibits a large variety of color patterns, and shows great diversity in the length of the dorsal filaments. All of our specimens show the black tip to opercle. (6563, 6567, 6569, 6600, 6609, 6641, 6651.)

Thalassoma lunare (Linn.).

Characterized by the longitudinal purple bar extending on to the 4th to 8th pectoral rays. (6610.)

Stethojulis kalosoma Bleeker.

Color dull yellowish, lighter below; a dark, white-margined stripe from slightly below eye to a line with origin of soft dorsal fin; each scale on the lower posterior portion of body with a round brown spot; no spot on caudal or dorsal. (6635.)

Halichæres dussumieri (Cuv. and Val.).

Julis exornatus RICHARDSON, Rep. Brit. Assoc. Adv. Sci. for 1845 (1846), 258.

Halichæres nigrescens BLEEKER.

(6568, 6578, 6584, 6605, 6614, 6647, 6652.)

Halichæres javanicus Bleeker.

Color in alcohol yellowish, with 6 irregular purplish bands over the back, these being made up of purplish spots; dorsal with yellowish rings; anal with yellowish rings, almost obliterated in one specimen and entirely faded out in another; head with yellowish violet specks; a blue spot behind orbit and in axil of pectorals. (6580, 6589, 6626.)

Halichæres pœcilopterus (Schlegel).

One specimen, length, 170 millimeters. (6648.)

Chærops ommopterus Richardson.

Dorsal spines, 12; scales of lateral line, 30; color in alcohol dull greenish, almost all the scales on the side showing a short vertical blue mark; on the caudal peduncle the blue marks are longitudinal instead of vertical, these form about 5 blue stripes on each side of the caudal peduncle; a blue stripe from angle of mouth to margin of opercle; a blue circle on base of pectoral; a darker line from eye along sides of snout to upper jaw; some blue lines on upper opercle; a jet-black spot below the base of the last dorsal spines. No yellowish area behind this spot as in *C. schænlieni* Bleeker. Anal fin with blue lines and spots; ventrals yellowish, with slight markings of blue; none of the fins elongate. Length, 22 centimeters. (6571.)

SCARICHTHYIDÆ. (Parrot fishes, kai kung yu)

Callyodon limbatus (Richardson):

(6555, 6556, 6557, 6558, 6559.)

Callyodon dubius Bennett.

Pseudoscarus æruginosa GÜNTHER.

Color in alcohol pale greenish brown, 3 white stripes on sides of belly; lips wide, 3 rows of scales on cheeks, the lowest row of 2 scales. (6603, 6611.)

EPHIPPIDÆ. (Indian spade fishes, ying kung)

Ephippus orbis (Bloch).

Color yellowish with round blackish spots, usually larger than eye. The young have a dark ocular band, with the addition of a second dusky band on the shoulders. (6303, 6306, 6316, 6322.)

DREPANIDÆ. (Spade fishes)

Drepane punctata (Gmelin). (Ke lung tsang.)

Drepane punctata GÜNTHER, Cat. Fishes Brit. Mus. (1860), 2, 62;
RICHARDSON, Rep. Brit. Assoc. Adv. Sci. for 1845 (1846), 244.

One specimen. (6277.)

CHÆTODONTIDÆ. (Butterfly fishes)

Chætodon aureus Temm. and Schleg.

Ocular band about equal in width to eye and with a broad yellowish white area in front and back of eye; ventrals yellow; the brownish lines on the rows of scales are almost longitudinal, except on shoulders where they are decidedly oblique; the caudal has a terminal margin of white and a narrow black line at a short distance from the margin. To this species belong *C. collaris* Jordan and Fowler² and *C. aureus* Günther both of which are from Japan. Evidently Richardson suspected that *C. aureus* Temminck and Schlegel and *C. collaris* Bloch might be the same, for he says that, "they agree tolerably well," which makes it certain they did not agree fully; therefore, he was not warranted in uniting them.

Chætodon reticulatus Cuvier and Valenciennes is quite distinct from both *C. aureus* Temminck and Schlegel and *C. collaris* Bloch, and is characterized by the broad black ocular band, which in most of its length is of much greater width than the eye; the lower portion of the ocular band extends backward to the origin of the ventrals and covers a large part of the thorax; the ventrals are yellow; the caudal has a very narrow margin of white with 2 black intermarginal lines separated by a yellow band; the base of caudal is jet black. *Chætodon prætextatus* Cantor seems to be a valid species most nearly related to *C. collaris* of Bloch, being characterized by the dusky ventrals, wide ocular band, and black tip to the opercles; Günther, who has specimens of both *C. prætextatus* and *C. collaris*, regards them as being different.

² *Proc. U. S. Nat. Mus.* (1902), 25, 534.

Chætodon collaris Bloch.

Chætodon collaris DAY, Fishes of India, Atlas (1878), Pl. 27, fig. 6; BLEEKER, Atlas Ichth. (1877), 9, Pl. 23, fig. 2; GÜNTHER, Cat. Fishes Brit. Mus. (1860), 2, 21; JORDAN and EVERMANN, Proc. U. S. Nat. Mus. (1903), 25, 356.

This species, which is without doubt *C. collaris* of Day, of Bleeker, and of Günther, is characterized by the dark ventrals, comparative narrow ocular band which does not extend to the origin of the ventrals, and the color of caudal which is broadly margined with white with a broad black bar near its center. *Chætodon collaris* Günther³ is possibly a variety of *C. reticulatus* Cuvier and Valenciennes with the black ocular band extending backward on the thorax to the origin of the ventrals; it certainly has but slight resemblance to Bloch's type of *C. collaris*. The species described by Jordan and Evermann⁴ is probably distinct and should be described as such.

Chætodon modestus Temm. and Schleg.

Chætodon desmotes JORDAN AND FOWLER, Proc. U. S. Nat. Mus. (1902), 25, 539.

This species is related to *C. rafflesii* Bennett which is, however, probably a valid species. (6293.)

Chætodon bella-maris Seale, sp. nov. Plate I, fig. 1.

Head, 3.10 in length without caudal; depth, 1.45; eye, 3.15 in head; snout slightly greater than diameter of eye; interorbital space slightly greater than snout; dorsal, XII, 23; anal, III, 21; lateral line strongly curved, ending at axil of soft dorsal, pores 46; scales in 34 series between head and end of caudal vertebra, 23 in a vertical series; head covered with fine scales; mouth small; teeth setiform; gill rakers low and pointed, about 17 on lower arch; spinous dorsal fitting into a scaled sheath at base, the 4th, 5th, and 6th spines the longest; soft dorsal rounded, no rays prolonged, length of longest ray but slightly less than head; caudal 1.35 in head, its margin almost straight; anal similar to soft dorsal; ventrals equal to length of head without opercular flap; a large axillary scale; pectorals equal to head with opercular flap.

Color in life yellowish, a black ocular band which is slightly greater than width of eye above the eye and slightly less than width of eye below; this band is continuous above, and extends to margin of subopercular below the eye; the band is margined

³ Günther, Fische der Südsee (1873-75), Heft II, Taf. 31 A.

⁴ Jordan and Evermann, Proc. U. S. Nat. Mus. (1903), 25, 356.

anteriorly and posteriorly with white; snout yellow; the tip of upper jaw black; a large black wedge-shaped mark on shoulder from spinous dorsal to the white border of the ocular band; this black area has a narrow prong of black extending from its posterior margin to upper tip of opercle; a narrow black margin to dorsal; a wide submarginal black band on posterior half of caudal; tip of caudal white; 12 to 14 rather wide, indistinct, brownish lines extending obliquely forward and downward on rows of scales; anal yellowish, with a marginal brown band; ventrals and pectorals yellowish.

This species is related to *C. lunula* Lacépède (*C. fasciatus* Bleeker), but differs in lacking the second black area on the shoulders and the semilunar band of black on soft dorsal, our specimen being without any black on the caudal peduncle, which according to Günther is present in *C. lunula* at all ages.

Type is No. 6321, Bureau of Science collection, collected in the Hongkong market by Seale, 1910.

Microcanthus strigatus (Cuv. and Val.).

Microcanthus strigatus CUV. AND VAL., Hist. Pis. (1831), 7, 25, Pl. 120; GÜNTHER, Cat. Fishes Brit. Mus. (1880), 11, 34; JORDAN AND FOWLER, Proc. U. S. Nat. Mus. (1902), 25, 541.

Color in alcohol yellowish with about 5 or 6 longitudinal, slightly inclined, brown stripes, about the width of the eye. Spinous dorsal blackish, stripes on body projected into anal fin, ventrals with dusky tip; pectorals and caudal yellowish. (6313.)

SIGANIDÆ. (Siganids)

Siganus oramin (Bloch and Schn.).

Scattered white spots over body, caudal indistinctly barred, upper margin of eye serrated; a distinct shoulder spot. Length, from 80 to 205 millimeters. (6417, 6442, 6446, 6451, 6482, 6483, 6518, 6574, 6604, 6606, 6613, 6618, 6620, 6622, 7392.)

MONACANTHIDÆ. (File fishes, hih pe yang)

Monacanthus chinensis (Bloch).

Monacanthus chinensis GÜNTHER, Cat. Fishes Brit. Mus. (1870), 8, 236; RICHARDSON, Rep. Brit. Assoc. Adv. Sci. for 1845 (1846), 201. (6566, 6634.)

Monacanthus setifer Bennett.

Monacanthus setifer GÜNTHER, Cat. Fishes Brit. Mus. (1870), 8, 239; SCHLEGEL, Fauna Japonica (1842), 290, Pl. 130, fig. 1 (good).

Dorsal, 32; anal, 32. The second dorsal ray produced. Color in alcohol brown with obscure blackish spots or streaks.

Monacanthus lineolatus Richardson.

Color in alcohol dirty light brown with from 6 to 8 fine dark lines on the body from head to near caudal. A dark spot below anterior half of soft dorsal, a dark blotch on opercles, margin of ventral membrane black, caudal with 2 dusky bands. This species is well described by Richardson.⁵ (6629.)

TETRAODONTIDÆ. (Puffers)

Spheroides spadiceus (Richardson).

This fish is believed to be poisonous. (6366, 6367, 6370, 6373, 6374, 6375, 6376, 6377, 6378, 6380, 6381, 6382, 6384, 6385.)

ELEOTRIDÆ.⁶ (Eleotrids)

Bostrychus sinensis (Lacépède).

This species is very common in Hongkong. It is distinguished by the black ocellus on the upper base of the caudal rays. Length, 110 to 150 millimeters. (6414, 6424, 6427, 6450, 6465.)

Butis butis (Hamilton-Buchanan).

Length, 117 millimeters. (6433.)

Butis caperata Cantor.

Distinguished from *B. butis* by the shorter head, shorter snout, and larger eye. Length, 65 millimeters. (6495.)

GOBIIDÆ. (Gobies)

Boleophthalmus chinensis (Osbeck).

Gobius pectinirostris GMELIN.

Boleophthalmus boddaerti SCHLEGEL.

Length, 90 to 110 millimeters. (6410, 6413, 6454, 6466, 6468, 6469.)

Boleophthalmus glaucus Day.

Length, 67 millimeters. (6531.)

Rhinogobius hongkongensis Seale, sp. nov. Plate I, fig. 2.

Head, 4; depth, 5.60 without caudal; eye, 3.1 in head; snout equal to eye; interorbital space a narrow ridge; dorsal, VI, 12; anal, 11; scales 25 to end of vertebra, 8½ in a vertical series;

⁵ Rep. Brit. Assoc. Adv. Sci. for 1845 (1846), 201.

⁶ It seems advisable to advance the subfamily of Eleotrinæ to the position of a family characterized by the separate ventrals, and thus in part separating the cumbersome family Gobiidæ.

no scales on cheeks or opercles, nape fully scaled to posterior margin of eyes, 10 series anterior of spinous dorsal; snout rounded, jaws equal; maxillary extending to anterior margin of eye, teeth of lower jaw small, sharp pointed, in several rows—the outer row being enlarged curved teeth resembling canines; an extra large recurved canine on each side, upper jaw with a single series of strong sharp teeth; tongue truncated or but slightly rounded; gill openings wide, but not extending forward; body fully scaled, the scales on posterior half of body somewhat larger; no free silk-like rays at the origin of pectorals.

Spinous dorsal with the 2d, 3d, and 4th rays longest; soft dorsal and anal similar in form and of about equal height, their posterior rays being about 1.50 in head. The origin of soft dorsal is on a line with anal pore; origin of anal below the 2d dorsal ray; ventrals firmly united for entire length, the basal cup deep, length of the fin equal to distance from nostril to posterior margin of opercle; pectoral slightly greater than length of head; caudal rounded, 1.20 in head.

Color in alcohol pale wood brown with a series of about 14 small, more or less complete, circles of darker brown (sepia) along the median line of sides, margin of scales on upper half of body also slightly shaded with sepia, 1 or 2 narrow lighter longitudinal lines above the row of median circles; a black line from posterior margin of eye to upper base of pectoral fin, 4 or 5 blue spots on opercles and irregular brown blotch on cheeks below eye; 2 brownish blotches on base of pectoral; dorsals marked with about 4 longitudinal brownish lines; tip of spinous dorsal dusky; anal shading into slaty gray on outer third; caudal marked with whitish spots; pectorals and ventrals pale yellowish brown, the ventral with a slight grayish wash.

Three specimens from Hongkong market, August 9, 1910. Type is No. 6474, Bureau of Science collection; length, 70 centimeters; cotypes are Nos. 6489 and 6541.

Gobius pœcililichthys Jordan and Snyder.

Dorsal, VI, 10; scales about 35, upper pectoral rays silk-like; tongue truncate. Length, 57 to 60 millimeters. (6408, 6523.)

Glossogobius giuris (Hamilton-Buchanan).

Length, 74 to 78 millimeters. (6409, 6463, 6477, 6504.)

Oxyurichthus cristatus (Day).

Length, 85 millimeters. (6484.)

Oxyurichthys amabalis Seale, sp. nov. Plate II, fig. 1.

Head, 4 without caudal; depth, 6; eye, 4 in head; dorsal, VI, 13; anal, 14; scales, 50; enlarged scales on posterior half of body; 21 scales in vertical series; snout 3.30 in head; interorbital space a mere ridge; mouth large, the lower jaw slightly the longer; maxillary extending to below middle of eye; upper jaw with a single series of rather strong sharp teeth, lower jaw with a single row of similar but smaller teeth; tongue rounded; head naked except on the occiput which is finely scaled; no tentacles; about 24 scales in front of dorsal; anterior anal spine longest, 1.25 in head; soft dorsal and anal similar, origin of anal under 1st ray of soft dorsal; caudal long and acuminate, 2.60 in length of fish without caudal; ventrals scarcely equal to length of head, their origin is anterior to the origin of dorsal, their tip scarcely reaching to anal pore; length of pectorals, 3.5 in body without caudal; no silk-like rays.

Color a very light brown, white on chin and thorax, fins with a slight grayish wash, anal blackish.

Type is No. 6432, Bureau of Science collection, secured in Hongkong market by Seale; length, 130 millimeters; 3 cotypes, Nos. 6411, 6438, and 6453.

Gobiichthys tentacularis (Cuv. and Val.).

Length, 75 to 110 millimeters. (6500, 6501, 6505, 6510, 6515, 6519, 6523, 6524.)

Cryptocentrus filifer (Cuv. and Val.).

Length, 105 to 130 millimeters. (6412, 6430, 6447, 6449, 6470, 6478.)

Cryptocentrus venustus Seale, sp. nov. Plate II, fig. 2.

Head, 3.75; depth, 5.50; dorsal, VII, 10; anal, 11; scales on anterior portion of body very small, becoming larger posteriorly, about 90 in lateral series from posterior border of opercle to end of caudal vertebra, about 27 in a vertical series; mouth large, the maxillary ending slightly posterior to eye; teeth in several series, some slightly enlarged ones in the outer row of upper jaw and in the inner row of lower jaw, no recurved canines; no posterior canines; tongue truncate; gill rakers rather blunt, 14 on lower arch; head naked, without filaments or barbules; eye rather small, 4.5 in head, and about equal to length of snout; interorbital space very narrow, being equal to pupil; anterior dorsal rather high, its longest spine being equal to length of head, the 6th spine is located a considerable space from the 5th; origin of soft dorsal midway between end of caudal

vertebra and posterior margin of eye, the soft dorsal is similar to anal; caudal rather pointed, its length 3.25 in fish without caudal; origin of anal below 3d ray of soft dorsal; ventrals united and long, almost equal to caudal, the tip extending to anal pore, the cup at the base very deep; origin of ventral midway between tip of snout and origin of anal; pectoral slightly less than length of head, its base rather muscular.

Color in alcohol, a wide dark-brownish saddle over back at the spinous dorsal which extends downward on sides of belly; there is a similarly colored area above the anal fin along the middle of sides, remaining area lighter brown; a brownish area on head back of eyes and on cheeks, about 15 small scattered blue spots on cheeks; spinous dorsal, ventral, and anal dark purplish; soft dorsal dark with several lighter longitudinal lines, caudal and pectorals uniform brown.

One specimen, type No. 6419, Bureau of Science collection, from Hongkong; length, 103 centimeters. Collected by Seale and Canonizado.

Trypauchen vagina Bloch and Schn.

Color yellowish white. Length, 60 to 75 millimeters. (6493, 6527, 6543.)

Tridentiger bifasciatus Stindachner.

Outer row of teeth trifid, the middle cusp the longest, 2 black bands on sides, the one on middle of sides very wide and distinct, the other at base of dorsal much less distinct. Length, 40 to 55 millimeters. (6486, 6502, 6535, 6536, 6549.)

Apocryptes bato (Hamilton-Buchanan).

Dorsal, V-1, 13; anal, 14; length, 110 to 140 millimeters. (6418, 6439.)

SCORPÆNIDÆ. (Scorpion fishes)

Sebastes marmorata (Cuv. and Val.).

The dark bands over the back and spots on caudal, dorsal, and anal fins distinguish this species. Length, 100 to 130 millimeters. (7723, 7758.)

PLATYCEPHALIDÆ. (Flatheads)

Platycephalus insidiator (Forskål).

This fish is very common in the Hongkong markets. It is easily distinguished by the black and yellow stripe of the caudal fin. Length, 30 centimeters. (6593.)

Thysanophrys neglectus (Troch.).

This species is characterized by the spinate lateral line, the dusky spinous dorsal, and the dusky bars over back. (6559, 6623, 6630, 6664, 6675.)

Thysanophrys bataviensis (Bleeker).

Lateral line, 57; dorsal, caudal, pectorals, and ventrals with rows of black dots. (6656.)

CEPHALACANTHIDÆ. (Flying gurnards)

Cephalacanthus orientalis Cuv. and Val.

One young specimen, length, 65 centimeters. (6499.)

PLEURONECTIDÆ. (Plaice, pan us)

Pseudorhombus misakius Jordan and Starks.

Pseudorhombus misakius JORDAN AND STARKS, Proc. U. S. Nat. Mus. (1904), 31, 173.

Color light brown, mottled with darker brown; a black spot at branching of lateral line; dorsal, 80; anal, 63. (6579, 6581.)

Pseudorhombus russellii (Gray).

Yellowish, clouded with brown, some darker spots on back. Scales, 92; anal, 58; dorsal, 78. (6588.)

Pseudorhombus olegolepis Bleeker.

Two young specimens, scales 48. (6560, 6607.)

Tephritis sinensis (Lacépède).

Body with fine black spots, some of which are ocellated; fins, except pectorals and ventrals, marked with black. (6633.)

SOLEIDÆ. (Soles, yat sa yu)

Cynoglossus melanopterus Richardson.

Two lateral lines on left side, scales 60, fins dusky. (6577.)

Cynoglossus abbreviatus Gray.

Three lateral lines on left side, fins gray, lighter at tip, 120 scales in lateral line. (6646.)

Synaptura orientalis Bloch and Schneider.

Soles faleacea RICHARDSON.

Synaptura pan BLEEKER.

Brown with darker blotches and narrow black bands crossing the lateral line; posterior half of pectorals black. (6624.)

Solea ovata Richardson.

This seems to agree in all essential respects with Richardson's description. (6561.)

PTEROPSARIDÆ. (Pterosparids)

Parapercis pulchella (Temm. and Schleg.).

The figure of this species given by Temminck and Schlegel is excellent. It is a common species in Hongkong. Length, 160 millimeters. (6363-6371.)

Parapercis cylindrica (Bloch).

Body with narrow dark bands below and 5 wide bifurcated bands above; white and dark spots on throat and chin; a brown band from eye to throat, a dark spot at base of pectorals and on upper base of caudal; spinous dorsal black; soft dorsal and anal with yellowish spots; ventrals yellow. Length, 93 centimeters (6649); length, 82 centimeters (8503).

Percis sexfasciatus Temm. and Schleg.

Five bifurcated dusky bands over the back; a brown ocellus on the upper base of caudal; some dark dots at base of dorsal. Length, 85 millimeters. (6660.)

CALLIONYMIDÆ. (Dragonels)

Callionymus curvicornis Cuv. and Val.

I very much doubt if this species is synonymous with *C. valenciennesi* Schlegel, as in our specimen, as well as in the specimens Günther had from China, the preopercular spine is nearly as long as the orbit and is curved upward; it terminates in 4 hook-like processes, one of which is directed backward; a 5th process at the base of the spine points forward. The posterior of spinous dorsal, which is fin shaped, has a large black spot surrounded by white. The anal fin is white with dusky blotches near its tip. (6612.)

Callionymus hindsii Richardson.

This fish is characterized by the alternating vertical lines of jet black and pure white of the spinous dorsal, the black lines being somewhat crooked and of greater width in some places than in others. The preopercular spine ends in 4 recurved claws, with a fifth at the base of the spine directed forward. The anterior dorsal has 3 rays, the posterior has 10. In alcohol the fish is indistinctly speckled with very pale brown on the back, the caudal fin is indistinctly barred with brown and white; some indistinct light specks in soft dorsal, otherwise fins colorless, except the spinous dorsal. Length, 8.5 centimeters. (6650.)

ILLUSTRATIONS

(Drawings by T. Espinosa)

PLATE I

- FIG. 1. *Chætodon bella-maris* Seale, sp. nov.
2. *Rhinogobius hongkongensis* Seale, sp. nov.

PLATE II

- FIG. 1. *Oxyurichthys amabalis* Seale, sp. nov.
2. *Cryptocentrus venustus* Seale, sp. nov.

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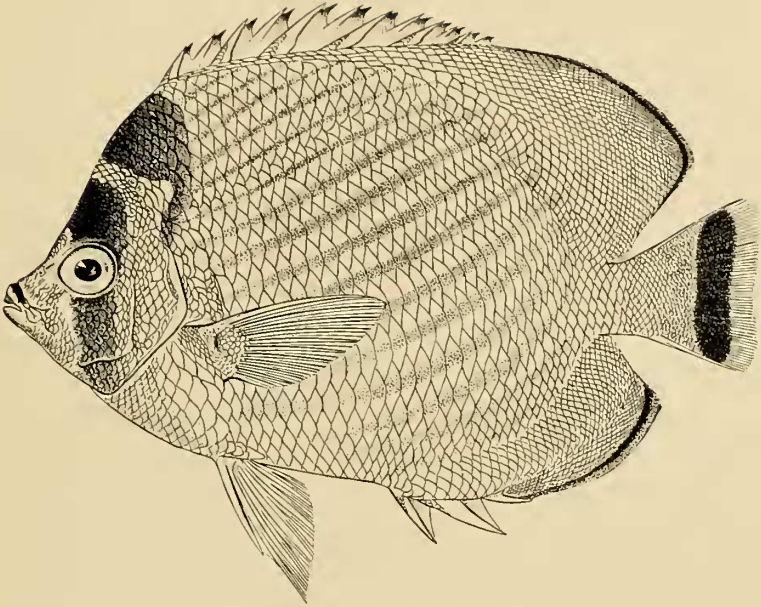


Fig. 1. *Chatodon bella-maris* Seale, sp. nov.

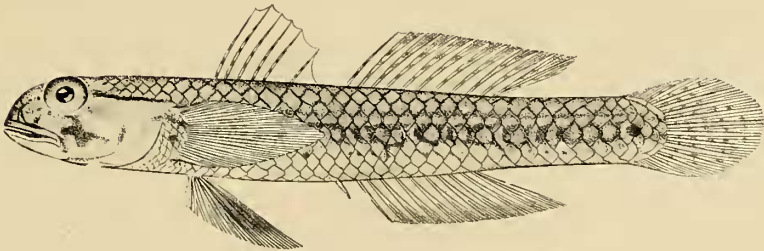


Fig. 2. *Rhinogobius hongkongensis* Seale, sp. nov.

PLATE I.

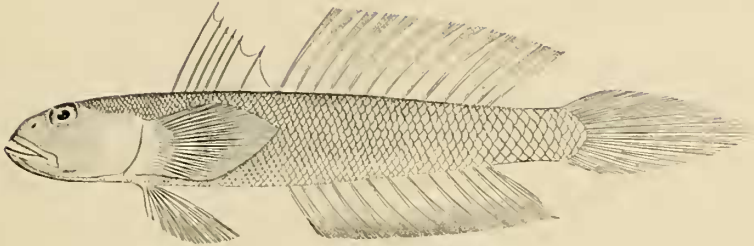


Fig. 1. *Oxyrichthys amabilis* Seale, sp. nov.

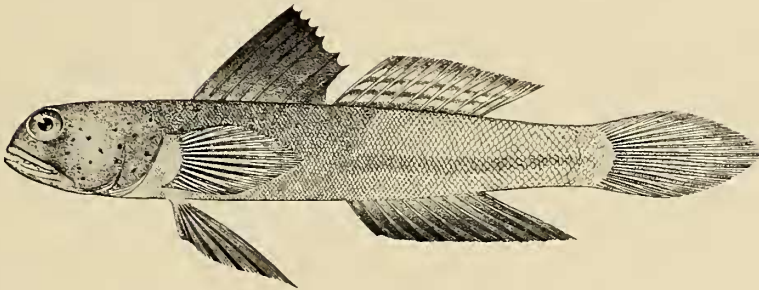


Fig. 2. *Cryptocentrus venustus* Seale, sp. nov.

PLATE II.